

## REMARKS

No claims have been canceled, amended or added in this paper. Therefore, claims 1-30 are pending. Of these claims, claims 17-20 and 23-30 are withdrawn as being drawn to a non-elected invention or a non-elected species, as discussed further below. Therefore, claims 1-16 and 21-22 are under active consideration.

In the outstanding Office Action, the Patent Office communicates the following election of invention requirement:

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-23, drawn to a method for the detection of cytosine methylations in DNA is hereby characterized in that a) the DNA to be investigated is brought into contact with a cytidine deaminase, whereby the cytidine deaminase deaminates cytidine and 5-methylcytidine at different rates, b) the partially deaminated DNA is investigated with respect to its sequence, and c) from the presence or the proportion of deaminated positions, conclusions can be made on the methylation status of the DNA to be investigated in said positions.

Group II, claim(s) 24 and 29, drawn to use of a method according to claim 1 for the diagnosis of cancer diseases or other disorders associated with a change in the methylation status.

Group III, claim(s) 25 and 28, drawn to use of a method according to claim 1 for predicting undesired drug interactions, for the differentiation of cell types and tissues or for the investigation of cell differentiation.

Group IV, claim(s) 26, drawn to use of cytidine deaminases, which convert cytidine and 5-methylcytidine at different rates, for methylation analysis.

Group V, claim(s) 27, drawn to use of cytidine deaminases, which convert cytidine and 5-methylcytidine at different rates, for the diagnosis of cancer diseases or other disorders associated with a change in the methylation status.

Group VI, claim(s) 30, drawn to a kit, which comprises the AID enzyme, a biologically active fragment of AID or a modification thereof as well as oligomers and the buffers necessary for the deamination, as well as optionally also a polymerase, primers and probes for an amplification and detection.

In response to the above, Applicant respectfully elects Group I, claims 1-23.

Also in the outstanding Office Action, the Patent Office communicates, in pertinent part, the following election of species requirement:

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Group I

Species of further DNA analysis after amplification

- A) repeated enzymatic conversion with cytidine deaminase is conducted after amplification (claim 17),
- B) amplicates are characterized by length measurement (claim 18),
- C) amplicates are characterized by mass spectrometry (claim 18),
- D) amplicates are characterized by sequencing (claim 18),
- E) amplicates are characterized by primer extension (claim 19),
- F) amplicates are characterized by hybridization to oligomer arrays (claim 20),

G) amplificates are analyzed with the use of real-time variants (claims 21 and 22),

H) several fragments are simultaneously amplified by means of multiplex reaction (claim 23).

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1 and 12.

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Applicant is advised that the reply to this requirement to be complete must include (i) an election of species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

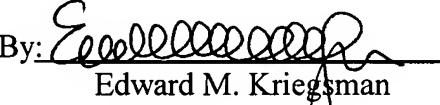
In response to the above requirement, Applicant respectfully elects Species G, amplificates are analyzed with the use of real-time variants. Claims 1-16 and 21-22 are readable on the elected species.

It is respectfully submitted that the present application is in condition for allowance. Prompt and favorable action is earnestly solicited.

If there are any fees due in connection with the filing of this paper that are not accounted for, the Examiner is authorized to charge the fees to our Deposit Account No. 11-1755. If a fee is required for an extension of time under 37 C.F.R. 1.136 that is not accounted for already, such an extension of time is requested and the fee should also be charged to our Deposit Account.

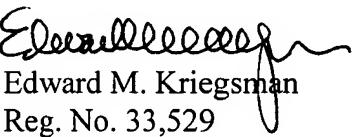
Respectfully submitted,

Kriegsman & Kriegsman

By:   
Edward M. Kriegsman  
Reg. No. 33,529  
30 Turnpike Road, Suite 9  
Southborough, MA 01772  
(508) 481-3500

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 17, 2009

  
Edward M. Kriegsman  
Reg. No. 33,529

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